

SCOPE OF CLAIMS

1. A moving picture transmission system comprising a transmission side sending encoded moving picture data and one or plural reception sides decoding the encoded moving picture data, wherein

5 said transmission side compresses input moving picture frames into a plurality of encoded data at multiple compression ratios and sends said plurality of encoded data; and

each one of said reception sides selects one of encoded data with frame-by-frame selection from the plurality of encoded data received by the reception side without error and decodes the selected encoded data.

2. A moving picture transmission system according to claim 1, wherein

5 said transmission side compresses input moving picture frames into a plurality of encoded data at multiple compression ratios and assigns a priority order to each data of said encoded data subject to a predetermined assignment rule, and sends said plurality of encoded data; and

each one of said reception sides selects the encoded data having the highest priority order with frame-by-frame selection from the plurality of encoded data received by the reception side without error and decodes the selected encoded data.

3. A moving picture transmission system according to claim 1, wherein

5 said transmission side sends, as said plurality of encoded data comprising primary encoded data produced by compressing the input moving picture frames using interframe prediction, and encoded data produced by compressing the input moving picture frames at one or plural compression ratios which are higher than said primary encoded data, using interframe

prediction referring to frames positioned at the same time as the reference frames referred to in the interframe prediction of said primary encoded data.

4. A moving picture transmission system according to claim 3, wherein said transmission side sends a plurality of encoded data comprising all compression-encoded data or encoded data of selected frames.

5. A moving picture transmission system according to claim 3, wherein said reception side selects the encoded data having the lowest compression ratio and decodes the selected encoded data.

6. A moving picture transmission system comprising a transmission side.. sending encoded moving picture data and one or plural reception sides decoding the encoded moving picture data, wherein said transmission side sends a plurality of encoded data comprising primary
5 packet data produced by compressing input moving picture frames into one or plural packets and one or plural packet data produced by compressing the same image area as contained in each packet of said primary packet data at one or plural compression ratios which are higher than said primal packet data; and

10 each one of said reception sides selects either one of the encoded data with packet-by-packet selection from the plurality of encoded packet data received by said transmission reception side without error, and decodes the selected encoded data.

7. A moving picture transmission system according to claim 6, wherein said transmission side sends a plurality of encoded data comprising primary

packet data produced by compressing input moving picture frames into one or plural packets, and one or plural packet data produced by compressing the same image area contained in each packet of said primary packet data at one or plural compression ratios which are higher than said primary packet data, each of said packet data being assigned priority order subject to a predetermined assignment rule; and

each one of said reception sides selects the encoded packet data having the highest priority order with packet-by-packet selection from the plurality of packet data received by said reception side without error, and decodes the selected encoded data.

8. A moving picture transmission system according to claim 6, wherein said transmission side sends a plurality of encoded data comprising primary packet data produced by compressing input moving picture frames into one or plural packets using interframe prediction, and one or plural packet data produced by compressing the same image area contained in each packet of said primary packet data at one or plural compression ratios which are higher than said primary packet data using interframe prediction referring to frames positioned at the same time as the reference frames referred to in the interframe prediction of said primary packet data.

9. A moving picture transmission system according to claim 8, wherein said transmission side sends a plurality of encoded data comprising all compression-encoded packet data or selected packet data.

10. A moving picture transmission system according to claim 8, wherein each of said reception sides selects the packet data having the lowest

compression ratio and decodes the selected encoded data.

11. A moving picture transmission system according to claim 3, wherein said transmission side multiplexes said plurality of encoded data with time differences added therebetween and sends the multiplexed encoded data, and each one of said reception sides demultiplexes the multiplexed and sent data
5 into a plurality of encoded data.

12. A moving picture transmission system according to claim 8, wherein said transmission side multiplexes said plurality of encoded data with time differences added therebetween and sends the multiplexed encoded data, and each one of said reception sides demultiplexes the multiplexed and sent data
5 into a plurality of encoded data.

13. A moving picture transmission system according to claim 3, comprising a moving picture encoding apparatus as said transmission side and one or plural moving picture decoding apparatuses as said reception sides;

said moving picture encoding apparatus having:

5 a plurality of encoding means for compressing input moving picture frames into a plurality of encoded data at multiple compression ratios and sending the encoded data;

each one of said moving picture decoding apparatuses having:

10 a plurality of encoded-data-receiving means for receiving the plurality of encoded data which have been sent and detecting bit errors or packet losses of the received encoded data;

a selecting mean for selecting the encoded data of the lowest compression ratio from the encoded data which have been received free of bit

errors or packet losses by said encoded-data-receiving means with frame-by-
15 frame selection; and
a decoding mean for decoding the encoded data selected by said
selecting mean.

14. A moving picture transmission system according to claim 8, comprising
a moving picture encoding apparatus as said transmission side and one or
plural moving picture decoding apparatuses as said reception sides;
said moving picture decoding apparatus having:
5 a plurality of encoding means for compressing input moving picture
fraems into a plurality of encoded data at multiple compression ratios and
sending the encoded data;
said moving picture encoding apparatus having:
a plurality of encoded-data-receiving means for receiving the plurality of
10 encoded data which have been sent and detecting bit errors or packet losses of
the received encoded data;
a selecting mean for selecting the encoded data of the lowest
compression ratio from the encoded data which have been received free of bit
errors or packet losses by said encoded-data-receiving means with packet-by-
15 packet selection; and
a decoding mean for decoding the encoded data selected by said
selecting mean.

15. A moving picture transmission system according to claim 11, wherein
said transmission side has delay-adding means for delaying part of said
encoded data to add the time differences between said plurality of encoded
data, and multiplexing means for multiplexing said plurality of encoded data with

5 the time differences added therebetween and sending the multiplexed encoded data, and each one of said reception sides has demultiplexing means for demultiplexing the multiplexed and sent data into a plurality of encoded data.

16. A moving picture transmission system according to claim 12, wherein said transmission side has delay-adding means for delaying part of said encoded data to add the time differences between said plurality of encoded data, and multiplexing means for multiplexing said plurality of encoded data with
5 the time differences added therebetween and sending the multiplexed encoded data, and each one of said reception sides has demultiplexing means for demultiplexing the multiplexed and sent data into a plurality of encoded data.

17. A moving picture encoding apparatus for compressing moving picture data and sending the encoded data to one or plural moving picture decoding apparatuses, wherein the moving picture encoding apparatus sends, to said moving picture decoding apparatuses, a plurality of encoded data comprising
5 primary encoded data produced by compressing the input moving picture frames using interframe prediction, and encoded data produced by compressing the input moving picture frames at one or plural compression ratios which are higher than said primary encoded data using interframe prediction referring to frames positioned at the same time as the reference frames referred to in the
10 interframe prediction of said primary encoded data.

18. A moving picture encoding apparatus according to claim 17, wherein the moving picture encoding apparatus sends a plurality of encoded data comprising all encoded data or encoded data of selected frames.

19. A moving picture encoding apparatus for compressing moving picture data and sending the encoded data to one or plural moving picture decoding apparatuses, wherein the moving picture encoding apparatus sends, to said moving picture decoding apparatuses, a plurality of encoded data comprising
5 primary packet data produced by compressing input moving picture frames using interframe prediction, and one or plural packet data produced by compressing the same image area as contained in each packet of said primary packet data at one or plural compression ratios which are higher than said primary packet data using interframe prediction referring to frames positioned at
10 the same time as reference frames referred to in the interframe prediction of said primary packet data.

20. A moving picture encoding apparatus according to claim 19, wherein the moving picture encoding apparatus sends a plurality of encoded data comprising all encoded data or selected packet data.

21. A moving picture encoding apparatus according to claim 17, further comprising delay-adding means for delaying part of said encoded data to add the time differences between said plurality of encoded data, and multiplexing means for multiplexing said plurality of encoded data with the time differences
5 added therebetween and sending the multiplexed encoded data.

22. A moving picture encoding apparatus according to claim 19, further comprising delay-adding means for delaying part of said encoded data to add the time differences between said plurality of encoded data, and multiplexing means for multiplexing said plurality of encoded data with the time differences
5 added therebetween and sending the multiplexed encoded data.

23. A moving picture decoding apparatus for receiving data produced by compressing moving picture data from a moving picture encoding apparatus and decoding the received data, wherein the moving picture decoding apparatus receives a plurality of encoded data comprising primary encoded data produced by compressing input moving picture frames using interframe prediction, and encoded data produced by compressing the input moving picture frames at one or plural compression ratios which are higher than said primary encoded data using interframe prediction referring to frames positioned at the same time as the reference frames used in the interframe prediction of said primary encoded data, and selects the encoded data having the lowest compression ratio with frame-by-frame selection from said encoded data free of bit errors or packet losses of the received encoded data, and decodes the selected encoded data.

24. A moving picture decoding apparatus for receiving data produced by compressing moving picture data from a moving picture encoding apparatus and decoding the received data, wherein the moving picture decoding apparatus receives a plurality of encoded data comprising primary packet data produced by compressing input moving picture frames using interframe prediction, and one or plural packet data produced by compressing the same image area as contained in each packet of said primary packet data at one or plural compression ratios which are higher than said primary packet data using interframe prediction referring to frames positioned at the same time as the reference frames referred in the interframe prediction of said primary packet data, and selects the encoded data having the lowest compression ratio with packet-by-packet selection from said encoded data free of bit errors or packet

losses of the received encoded data, and decodes the selected encoded data.

25. A moving picture decoding apparatus according to claim 23, comprising demultiplexing means for demultiplexing the plurality of encoded data which have been multiplexed with time differences added therebetween and sent, into a plurality of encoded data.

26. A moving picture decoding apparatus according to claim 24, comprising demultiplexing means for demultiplexing the plurality of encoded data which have been multiplexed with time differences added therebetween and sent, into a plurality of encoded data.

27. A moving picture transmission system having a moving picture transmission program for enabling a computer processor to encode moving picture data and send encoded data at a transmission side, and enabling a computer processor to receive and decode the encoded data at reception sides,
5 wherein said moving picture transmission program enables the computer processor at the transmission side to compress input moving picture frames into a plurality of encoded data at multiple compression ratios and sends the encoded data, and enables the computer processor at said reception side to select any one encoded data with frame-by-frame selection from the plurality of
10 properly received encoded data and decode the selected encoded data.

28. A moving picture transmission system having a moving picture transmission program according to claim 27, wherein said moving picture transmission program enables the computer processor at said reception side to select the encoded data having the lowest compression ratio with frame-by-

5 frame selection from the plurality of properly received encoded data and decode the selected encoded data.

29. A moving picture transmission system having a moving picture transmission program for enabling a computer processor to encode moving picture data and send the encoded data at a transmission side, and enabling a computer processor to receive and decode the encoded data at a reception side,
5 wherein said moving picture transmission program enables the computer processor at the transmission side to send a plurality of encoded data comprising primary packet data produced by compressing input moving picture frames and one or plural packet data produced by compressing the same image area as contained in each packet of said primary packet data at one or plural
10 compression ratios which are higher than said primary packet data, and enables the computer processor at said reception side to select either one of the encoded data with packet-by-packet selection from the plurality of properly received encoded data, and decode the selected encoded data.

30. A moving picture transmission system having a moving picture transmission program according to claim 29, wherein said moving picture transmission program enables the computer processor at said reception side to select the encoded data having the lowest compression ratio with packet-by-
5 packet selection from the plurality of properly received encoded data and decode the selected encoded data.